

ATTACHMENT B
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-2. (Canceled)

3. (Previously Presented) A photodynamic therapy method of suppressing thickening of vascular intima in a blood vessel wall and vascular restenosis of the blood vessel which are inducible after an interventional angioplasty treatment of the arteriosclerotic blood vessel has been done for a purpose of dilating an arteriosclerotic stenosed site of the arteriosclerotic blood vessel, said method comprising:

before or after the angioplasty treatment, intravenously administering a photosensitizing compound selected from the group consisting of mono-L-aspartylchlorin e6, and a salt thereof, to a patient whose blood vessel has received the interventional angioplasty treatment;

administering the photosensitizing compound at a single time, either before or after said angioplasty treatment, at a dosage of 0.1-5 mg/kg of body weight, so that the photosensitizing compound can accumulate in the cell layers of the blood vessel wall at the angioplasty-dilated and injured site of the blood vessel;

inserting percutaneously and transluminally into and locating in the interior of said blood vessel at a position of the angioplasty-dilated and injured site thereof having received the angioplasty treatment, a laser-irradiating device comprising a balloon catheter having a central and longitudinal hole therein and having an inflatable balloon

made of a laser-transmissive material at a front end of said catheter and that comprises a laser-irradiating optical fiber so arranged as to extend within and through said central and longitudinal hole in the balloon catheter and is equipped on the catheter with an inlet tube for introduction of an inflating liquid to be sent into an interior space of said inflatable balloon; and adjusting the position of the balloon catheter within the blood vessel so that said balloon of the balloon catheter is located oppositely to the angioplasty-dilated and injured site of the blood vessel;

inflating said balloon of the balloon catheter by delivery of the inflating liquid in the interior space of the balloon of the catheter via said inlet tube for introduction of the inflating liquid into the balloon interior space of the catheter of said device, thereby to produce an inflated balloon in the balloon catheter;

allowing a central axis of the laser-irradiating optical fiber present within the central and longitudinal hole of said balloon catheter to be held coincidently with and in the same position as the central axis of the vascular lumen of the blood vessel at the angioplasty-dilated and injured site of the blood vessel, with aid of a supporting force which is generated by said inflated balloon and is exerted on the balloon catheter and on the inner wall of the blood vessel at said angioplasty-dilated and injured site, with the supporting force maintaining said inflated balloon in tight contact with the inner wall of the blood vessel at the angioplasty-dilated and injured site, so as to completely intercept the bloodstream to be flown between the inflated balloon wall and the inner wall of the blood vessel at said angioplasty-dilated and injured site; and

after said angioplasty treatment is done, but at a time point of 0.5-6 hours after the administration of photosensitizing compound, irradiating the photosensitizing

compound having accumulated in the interior of the blood vessel wall positioned at the angioplasty-dilated and injured site of the blood vessel, with a laser light of 664 nm wavelength at laser fluence of 1 to 10 J/cm², by transmitting from a laser-generator the laser light via said optical fiber in the balloon catheter, in a manner that the transmitted laser light is emitted outwardly from the laser-emitting part at the front end of said optical fiber and is made to pass through the liquid medium present in the inflated balloon and through the wall material of said inflated balloon of the balloon catheter which is in tight contact with the inner wall of the blood vessel, so that the emitted laser light irradiates the photosensitizing compound present in the blood vessel inner wall at the angioplasty-dilated and injured site of the blood vessel, whereby said compound so irradiated is photoactivated and allowed to generate and exert the suppressive effects thereof against the thickening of the vascular intima inducible in the angioplasty-dilated and injured site of the blood vessel.

4. (Original) The photodynamic therapy method according to Claim 3, wherein the angioplasty is a percutaneous transluminal coronary angioplasty or a percutaneous transluminal angioplasty.

5. (New) A photodynamic therapy method of suppressing thickening of vascular intima in a blood vessel wall and vascular restenosis of the blood vessel which are inducible after an interventional angioplasty treatment of the arteriosclerotic blood vessel has been done for a purpose of dilating an arteriosclerotic stenosed site of the arteriosclerotic blood vessel, said method consisting of:

before or after the angioplasty treatment, intravenously administering a photosensitizing compound selected from the group consisting of mono-L-aspartylchlorin e6, and a salt thereof, to a patient whose blood vessel has received the interventional angioplasty treatment;

administering the photosensitizing compound at a single time, either before or after said angioplasty treatment, at a dosage of 0.1-5 mg/kg of body weight, so that the photosensitizing compound can accumulate in the cell layers of the blood vessel wall at the angioplasty-dilated and injured site of the blood vessel;

inserting percutaneously and transluminally into and locating in the vascular lumen of said blood vessel at a position of the angioplasty-dilated and injured site thereof having received the angioplasty treatment, a laser-irradiating device comprising:

(i) a balloon catheter having a central and longitudinal hole therein and having an inflatable balloon made of a laser-transmissive material at a front end of said catheter; and

(ii) a laser-irradiating optical fiber so arranged as to extend within and through said central and longitudinal hole in the balloon catheter and is equipped on the catheter with an inlet tube for introduction of an inflating liquid to be sent into an interior space of said inflatable balloon;

adjusting the position of the balloon catheter within the blood vessel so that said balloon of the balloon catheter is located oppositely to the angioplasty-dilated and injured site of the blood vessel;

inflating completely said balloon of the balloon catheter by delivery of the inflating liquid in the interior space of the balloon of the catheter via said inlet tube for introduction of the inflating liquid into the balloon interior space of the catheter of said device, thereby to produce a completely inflated balloon in the balloon catheter;

achieving a necessary centering of said optical fiber within the vascular lumen of the blood vessel by allowing a central axis of the laser-irradiating optical fiber present within the central and longitudinal hole of said balloon catheter to be held and maintained coincidently with and in the same position as the central axis of the vascular lumen of the blood vessel at the angioplasty-dilated and injured site of the blood vessel, with aid of a supporting force which is generated by said completely inflated balloon and is exerted on the balloon catheter and outwardly on the inner wall of the blood vessel at said angioplasty-dilated and injured site and distends a portion or region of the blood vessel, with the supporting force maintaining said completely inflated balloon in tight contact with said inner wall of the blood vessel at the angioplasty-dilated and injured site, so as to completely intercept the bloodstream to be flown between the completely inflated balloon wall and the inner wall of the blood vessel at said angioplasty-dilated and injured site; thereby resulting in and enabling that any bloodstream flow that has been blocked from flowing between said completely inflated balloon wall and the blood vessel inner wall at said angioplasty-dilated and injured site does not interfere with and attenuate an irradiating laser light which is to be emitted from said optical fiber in a later

step of the photodynamic therapy,

said completely inflated balloon achieving the necessary centering of said optical fiber within said vascular lumen, resulting in the center axis of the optical fiber being held and maintained coincidentally with the central axis of the vascular lumen of the blood vessel, thereby allowing the irradiating laser light to be emitted from said optical fiber present at the centering position and to be applied evenly or uniformly onto the blood vessel inner wall during a later step of the photodynamic therapy, without receiving any interference from or any attenuation of the laser light by a bloodstream within said vascular lumen; and

after said angioplasty treatment is done, but at a time point of 0.5-6 hours after the administration of photosensitizing compound, effecting a photodynamic therapy step by irradiating intravascularly the blood vessel inner wall and the photosensitizing compound having accumulated in the interior of the blood vessel wall positioned at the angioplasty-dilated and injured site of the blood vessel, with an intravascularly irradiated laser light of 664 nm wavelength at a laser fluence of 1 to 10 J/cm², while keeping said balloon completely inflated, and by transmitting from a laser-generator said laser light via said optical fiber in the balloon catheter, in a manner that the transmitted laser light is emitted outwardly from the laser-emitting part at the front end of said optical fiber and is made to pass through the liquid medium present in the completely inflated balloon and through the wall material of said completely inflated balloon of the balloon catheter which is in tight contact with the inner wall of the blood vessel, in the absence of any intervening bloodstream between the balloon wall and said blood vessel inner wall, so that the intravascularly emitted laser light is neither interfered with nor attenuated by a

bloodstream but is allowed to irradiate evenly the blood vessel inner wall and the photosensitizing compound present in the blood vessel inner wall at the angioplasty-dilated and injured site of the blood vessel, whereby said compound so evenly irradiated is photoactivated effectively by the laser light of said low laser fluence and allowed to generate and exert the suppressive effects thereof against the thickening of the vascular intima inducible in the angioplasty-dilated and injured site of the blood vessel.

6. (New) The photodynamic therapy method according to Claim 5, wherein the angioplasty is a percutaneous transluminal coronary angioplasty or a percutaneous transluminal angioplasty.